

## CLAIMS:

1. An electronic circuit for amplification of a bipolar current signal ( $I_{in}$ ), the electronic circuit comprising a pair of complementary current mirrors( 202, 204), the current mirrors being interconnected at an input terminal (206) and at an output terminal (208), wherein a first complementary current mirror (204) of the pair of complementary current  
5 mirrors is active when a positive current signal is applied and wherein the second complementary current mirror (202) of the pair of complementary current mirrors is active when a negative current signal is applied at the input terminal.
2. The electronic circuit of claim 1, wherein the first current mirror is a PNP  
10 current mirror and the second current mirror is a NPN current mirror.
3. The electronic circuit of claims 1 or 2, further comprising bypass capacitors (C1, C2, C3, C4) being coupled to the first and second current mirrors.
- 15 4. The electronic circuit of claims 1, 2 or 3 further comprising a pair of degeneration resistors (R1, R3; R2, R4) for each one of the first and second current mirrors.
5. The electronic circuit of any one of the preceding claims 1 to 4, further comprising a feedback transistor (M1), a control terminal of the feedback transistor being  
20 coupled to the input terminal.
6. The electronic circuit of claim 5, the feedback transistor being an NMOS-type transistor.
- 25 7. The electronic circuit of claim 5, the feedback transistor being an NPN-type transistor.

8. The electronic circuit of any one of the preceding claims 1 to 7, further comprising a resistor (210) being coupled to the input terminal for providing a bipolar voltage signal input terminal.

- 5 9. An ultrasound apparatus comprising:
- an ultrasound receiver (214) for providing an ultrasound bipolar current signal,
  - a pair (200) of complimentary current mirrors, the current mirrors being interconnected at a first terminal and at a second terminal, the first terminal being coupled to the ultrasound receiver for receiving the ultrasound bipolar current signal,
- 10 wherein a first current mirror of the pair of complimentary current mirrors is active during a positive swing of the ultrasound bipolar current signal while a second current mirror of the pair of complimentary current mirrors is off, and wherein the second current mirror is active during a negative signal swing of the ultrasound bipolar current signal while the first current mirror is off.